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Logistics Intelligence: The First Step in Operational Sustainment?

A Monograph
by

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This monograph examines the intelligence requirements of logistics planners at the operational level of war. Specifically, it analyzes what information is available to sustainment planners, the form of that information as it is used in the staff planning process, and the degree to which that intelligence satisfies the requirements of logistics planners.

First, the theory and context of logistics and intelligence at the operational level of war are studied. These component parts are then synthesized into a working definition of the term "operational logistics intelligence".

Two historical case studies in which operational logistics and intelligence played important roles are analyzed next. These examples are Operation Overlord,
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The author concludes that a need exists for specific logistics intelligence during campaign planning, recognizing that doctrine and staff procedures to do so are still being developed. This study ends with recommendations to approve that developing doctrine, teach it in service schools, and suggests a format for logistics staff officers to use when requesting intelligence.

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I. INTRODUCTION

> As the scale and complexity of warfare have increased, the importance of logistics to success in battle has likewise increased. An army's ability to marshal, transport, and distribute large quantities of material and to maintain the men and equipment of large units can make the decisive difference between victory and defeat...(1)

This statement from the Army's keystone warfighting manual, FM 100-5, Operations, indicates the importance of logistics to modern warfighting. During the last two hundred years, logistics has, according to noted author Martin Van Creveld, become "as much as nine tenths of the business of war."(2)

Current doctrine and historical examples indicate that the planning for logistical support of campaigns and major operations requires extensive preparation. A major part of this preparation is an analysis of the theater or area of operations; an analysis which provides intelligence relevant to logistics.(3) Such an analysis requires information that is directly related to logistics matters and expressed in logistics terminology. The extent and availability of such intelligence can dramatically affect logistics planning, and ultimately, combat operations.

This paper will examine the linkage between logistics and intelligence at the operational level of war. It will determine what information sustainment planners require, and whether such information is available in a form relevant to logistics planning.

This study begins with a discussion of the research topic and

methodology. Next, it discusses the theoretical and doctrinal context and principles of operational logistics. This discussion will be used to develop a framework for determining what intelligence is necessary to plan theater logistics.

Using this doctrinal and theoretical framework, two historical case studies will be analyzed, focusing on the intelligence available to logistics planners. These case studies are Operation Overlord, the Allied Invasion of Europe in 1944, and Operation Chromite, the U.S. Landing at Inchon in 1950. Each operation will be analyzed by examining what intelligence was available which contributed to planning the five key sustainment considerations in a theater of war. According to FM 100-5, Operations, these considerations are: forces available, theater infrastructure, host nation support, establishment of the sustainment base, and support of the major sustainment systems.(4)

This paper will assume the planning of operational logistics is largely dependent on intelligence related to these five key considerations. Each of the five considerations has unique intelligence requirements. The first, analyzing forces available, requires intelligence about the readiness and deployability of combat service support units, and factors which may affect their deployment and mobilization.(5) Next, the ability to plan the establishment of the theater infrastructure depends on intelligence describing the civil and military facilities in the theater. These include, but are not limited to,

ports, roads, airfields, repair facilities, supply points, and railroads.(6)

Third is the need to consider host nation support as an aspect of logistics planning. Intelligence should include information on civilian labor, agreements currently in effect for management of facilities such as railways and communications networks, and the need to negotiate such support where no agreements exist.(7) Fourth, when considering establishment of the sustainment base, other types of intelligence exist. Determining the existence, location, and accessibility of sustainment bases requires details on access to air and/or sea lift, storage space, transshipment capability, and accessibility of multiple lines of communication.(8) Such information may be the key factor in planning a campaign or operation, as some historians believe to be true in selecting the D-Day landing site.(9)

Finally, the logistics planner must consider the capability of the sustainment base to support the five basic functional sustainment systems: transportation, maintenance, supply, personnel, and health services.(10) Intelligence should provide details on any aspect of the theater which can either contribute to, or degrade, capabilities related to any of these five systems.

Following this analysis of historical case studies, this paper will next discuss current doctrine for operational logistics planning and the intelligence necessary to do so. Requirements

for logistics intelligence necessary to plan theater sustainment will be determined by analyzing historical precedents, theoretical concepts, and current doctrine.

Based on the preceding discussion, this study will evaluate logistics intelligence and answer the research question: What intelligence does the operational level logistician require when planning theater sustainment, and is it available in a form applicable to the operational level of war? Based on these conclusions, a possible model for logistics intelligence will then be suggested.

II. OPERATIONAL LOGISTICS INTELLIGENCE - THEORY AND CONTEXT

The unique character of the operational level of war forms the framework for this discussion of logistics intelligence. Together with strategic and tactical operations, operational art provides the structural basis of modern warfare.(1)

FM 100-5, Operations, defines operational art as:

> The employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization and conduct of campaigns and major operations.(2)

Warfare at this level basically involves joint or combined operations, as well as simultaneous and sequential operations, which typically plan for multiple contingencies (branches) and further operations (sequels).(3) The operational commander may plan and conduct operations involving a single army in a single zone of operations, or multiple field armies in several theaters of operation within a theater of war. Although: "No particular echelon of command is solely or uniquely concerned with operational art,...theater commanders and their staffs usually plan and direct campaigns. Army groups and armies normally design the major ground operations of a campaign."(4)

More important than the scope or scale of operations (or the size of the unit(s) involved) is the objective, or more specifically, the "end-state towards which all military effort is directed."(5) Referring to our earlier definition of operational

art, this end-state is the 'attainment of strategic goals'. Theoretically, force structure should be independent of such an objective. Although commonly associated with army groups and field armies, operational art may also be practiced with units as small as divisions or brigades.(6) The important point to bear in mind is that the operation sequences operations seeking to achieve strategic goals, and usually employs joint, and/or combined forces to do so.

In order to achieve these goals, operational art requires that a balance be established between ways, means, ends, and risk.(7) Among the means necessary in warfare are personnel, equipment, logistics capability, space and time, i.e., "the total combat power available to the commander."(8) It is logistics (operational, tactical, or strategic) which provides those means; "provides the military artist with the operational substance for use in war."(9)

As Martin Van Creveld says, logistics is "the practical art of moving armies, and keeping them supplied."(10) Practiced at the level between strategy and tactics, operational logistics is concerned with delivering to the commander the means to fight, and then sustaining those forces from its base up to the forward units.

From a theoretical standpoint, Professor James Schneider, of the School of Advanced Military Studies, considers two elements to be crucial to logistical support: the base of operations and the

lines of communications.(11) The base of operations is where an army obtains its resources from - one or more locations stretching from the homeland to the army in the field. The lines of communications are the land, sea, and air routes connecting those bases along which resources must travel to reach the army. These so-called 'lines of support':

> ...act both like shackles and umbilical cords to operational units. There is a shackling effect in that operational tempo is slowed. But unlike a ball and chain it can not be cut else the unit will quickly wither away. It must be maintained at all costs. This imperative has a significant impact on all operational design.(12)

In other words:

> The choice of lines of operations may be regarded as fundamental in devising a good plan for a campaign.(13)
>
> ...Jomini

We can see a solid theoretical basis for the unique character of operational logistics. By providing the commander with the means to conduct campaigns, operational logistics in effect becomes "the final arbiter of operations."(14) Accepting this statement as a maxim for campaign planning, what doctrinal context guides sustainment planning of campaigns and major operations?

FM 100-5, Operations, describes sustainment in terms of basic functions to be accomplished, and fundamental imperatives for doing so. The six basic sustainment functions are: manning,

arming, fueling, fixing, transporting, and protecting the sustainment effort. All are necessary to provide the operational level commander the means to fight. Manning provides personnel and services. Arming provides the equipment and weapons, as well as ammunition. Fueling provides the petroleum products necessary for the operation of both air and ground vehicles. Fixing assists in generating combat power by repairing equipment and returning it to use. Transporting moves men and supplies into and within the battlefield in a timely manner. Finally, protecting the sustainment system prevents disruption of the logistics effort.(15)

AirLand Battle Doctrine describes five imperatives essential to sustainment operations: anticipation, integration, continuity, responsiveness, and improvisation. Anticipation is accumulating and maintaining the necessary assets at the decisive time and place. "At the operational level, anticipation requires that sustainment planners visualize the entire course of a major operation or campaign..."(16) Anticipation requires the sustainment effort to be prepared for changes that develop as a result of branches or sequels to the campaign plan. The second imperative, integration, requires the commander to fully integrate logistics into every phase of an operation, yet logisticians must not allow support operations to unduly restrict the commander's freedom on the battlefield. The third imperative, continuity, requires the combat units to receive continuous supply and service

support in order to sustain combat power. To do so requires that the sustainment effort not depend on a single line or technique of support. The fourth imperative, responsiveness, states that the sustainment system must react quickly to crisis as well as opportunity. To do so requires a degree of agility that only results from careful planning. The last imperative is improvisation. It requires the sustainment effort to complement planning and anticipation with the ability to imaginatively meet unexpected requirements, using any and all available resources.(17)

The six sustainment functions and the five imperatives contribute to the conceptual context for logistics support of military operations. The third side of this framework - five key considerations for planning theater sustainment - were described in detail in section one: forces available, theater infrastructure, host nation support, establishment of the sustainment base, and capability of supporting the five functional sustainment systems. The fourth side of the framework for operational sustainment consists of the critical decisions concerning the interface between operations and logistics within the theater.

According to FM 100-5, Operations, these decisions concern the following: lines of support, staging, altering lines of communication (L.O.C.), sustainment priorities, and force expansion. Lines of support link the sustainment base to the forward tactical units. Staging requires support bases to move

forward to new locations as L.O.C.'s become overextended. Altering lines of communication must be accomplished while simultaneously continuing support of combat forces. Sustainment priorities must be established to make the most efficient use of limited logistics assets. Finally, force expansion must occur at a balanced rate. The appropriate mix of combat, combat support, and combat service support units maximizes combat effectiveness.(18)

Such decisions are the basis for the logistics planning in a theater of war. Each has a significant effect on how and how much the sustainment system delivers the means of conducting combat operations to the commander. Each, therefore, has a significant impact on the operational level commander's ability to generate combat power at the decisive time and place; to make these decisions soundly requires detailed and accurate intelligence. (19)

The concepts discussed so far in this section have described the nature and context of operational logistics; what, then is the nature of operational intelligence? Clausewitz described intelligence as "every sort of information about the enemy and his country - the basis, in short, of our own plans and operations."(20) More recently, army doctrine lists intelligence (along with logistics) as one of the major functional areas of modern warfare:(21)

> Battle success depends on the force commander's ability to see the battlefield. The enemy must be surprised and caught at a disadvantage as often as possible. Their strengths must be avoided and their weaknesses exploited. To do this, commanders must know their battlefield area, the conditions in which they will fight...(22)

In essence, intelligence seeks to reduce battlefield uncertainty and risk. At the operational level, intelligence possesses a unique character essential to operational level planning.(23) Much more than a link between or fusion of strategic and tactical intelligence, operational level intelligence is "that intelligence required for planning and conducting campaigns within a theater of war."(24) Operational intelligence concentrates on the collection, identification, location, and analysis of strategic and operational centers of gravity, leading to successful attack of the enemy center of gravity as well as protection and sustainment of our own.(25)

The principle intelligence tasks performed at the operational level of war are: situation development, target development, electronic warfare, security and deception, and indications and warning. In particular, situation development, or intelligence preparation of the battlefield (IPB), is the key to operational level planning. It provides an intelligence data base concerning the enemy, weather and terrain, and their potential effects on support operations.(26) (It is particularly interesting to note, in view of the subject of this paper, the term 'logistics

intelligence' is not found in army doctrine.)

One of the major IPB functions at the operational level is an analysis of the characteristics of the theater of war or operations. This analysis provides details of the following characteristics of the theater area of operations: terrain, weather, transportation, economic, social, and political systems, all analyzed with respect to their impact on the campaign.(27) Such an analysis provides the operational level commander with a clearer picture of the type and scale of military operations possible. It also assists the operational logistician in planning how to provide the means (personnel and supplies) necessary to conduct those operations.

This brief discussion of operational art, operational logistics and operational intelligence now makes it possible to develop a definition of the term 'operational logistics intelligence' for use in this analysis. Specifically, it is defined as " that information necessary to plan and conduct the deployment and sustainment of military forces during the conduct of campaigns and major operations in a theater of war or operations."

I have described the context and basic principles of operational logistics intelligence and given the term a working definition. What remains to be seen is whether the intelligence available to the operational level logistician is adequate. By examining historical examples, we can make a substantive

assessment of what operational logistics intelligence has been, and gain insight into what it should be.

III. HISTORICAL CASE STUDIES

Operation "Overlord" - The Allied Invasion of Europe

Planning for a cross-channel invasion of the European continent began almost immediately after the British evacuation from Dunkirk in 1940. By the time General Eisenhower was appointed Supreme Commander Allied Expeditionary Force on 15 January 1944, nearly three years of waiting and planning were rapidly nearing completion.(1) Responsibility for planning the assault phase (called Operation 'Neptune') was assigned to the British 21 Army Group.(2) First U.S. Army Group was attached to 21 Army Group (pending later build-up of adequate U.S. ground forces on the continent, causing activation of a U.S. Army Group), and was responsible for planning operations for all U.S. forces through D+14.(3) This included all logistics and operational planning, to be conducted within the context of the overall SHAEF plan to "seize and develop an administrative base from which future offensive operations could be launched.(4) To facilitate this planning, by late January of 1944, the entire First Army Group G-4 staff was colocated with General Montgomery's Administrative Staff, in preparation for the final planning of the invasion.(5)

The American staff utilized much the same planning process as is in use today. In preparing for any combat operation, the commander and his staff prepared estimates of the situation, each prepared with a different focus.(6) The G-2 estimate, called the

'G-2 Estimate of the Enemy Situation', summarized the enemy situation. The G-4 estimate, called the 'Supply and Evacuation Situation', summarized logistical factors affecting operations(see Appendix A - Estimate of the Supply and Evacuation Situation - 1940).(7)

In keeping with the doctrine of the time, each staff section was responsible for the production of all estimates, plans, and orders related to their functional area of responsibility, as well as coordination with the other staff sections.(8) The result was that the G-4 and G-2 worked closely with the G-3 and G-5 in the preparation of each estimate or plan, or each portion thereof. The G-4 staff, specifically, had to rely heavily on the G-2 and special staff for information necessary to plan an operation such as Overlord.(Refer to App. A)

In July of 1943, the Headquarters, Services of Supply, under guidance of the War Department, published criteria to give form to the general guidelines of FM 101-5. These "Projects for a Continental Operation" provided logistics and intelligence planners guidelines for information requirements upon which to base planning.(9) They included:

a. Troop basis by major types of units, e.g. divisions classified as Infantry, Armored, and AirBorne.

b. Rate of troop build-up on the Continent, and rate of troop inflow to the United Kingdom.

c. Number and characteristics of lines of communications, including an estimate of motor transport requirements.

d. Number of major and minor ports to be rehabilitated.

e. Estimate of airfield construction required and number of planes to be supported on the continent for the first three months.

f. Authorized levels of supply on the continent.

g. Estimate of enemy demolition of ports, bridges, rail equipment, and signal communications, expressed in percentages.(10)

SHAEF Headquarters provided guidance on logistics matters, in addition to the more common American estimates, studies, and directives, in the form of "Administrative Appreciations".(11) Borrowing the term from the British, these 'appreciations' became the basis for theater-level administrative (i.e. logistical) estimates (see Appendix B - SHAEF Administrative Appreciation - 1943). This combination of U.S. and British staff planning procedures would form the basis for logistical planning for Overlord, but it depended on the intelligence requirements being met.

In order to provide that intelligence the 1st Army Group staff collected and analyzed information from various sources. Organizations such as the British Inter-Service Topographic Department (ISTD) and Naval Intelligence Division (NID) were considered especially valuable sources.(12) Additional information came from the British Royal Engineer Staff, the U.S.

Army Engineers, the Inter-Allied Service Topographical Department, the Ministry of Economic Warfare, and any other organization from which the Army Group Staff could secure information.(13)

Some information, such as engineering studies of ports, railways, and roads, was used directly by the G-4 Staff.(14) Other data, such as aerial photographs, demographic, historical, climatic, and topographic data required further analysis by the G-2 before assuming any kind of operationally or logistically useful form. According to intelligence doctrine at the time, such studies were called 'War Department Intelligence'. They covered almost every aspect of a theater of operations, and were studies with a view towards possible impact on military operations.(15) In its final form, this intelligence became Annex 'B' of the Administrative (logistical) Appreciation, and covered the following subject areas: general topography and communications, roads, railroads, inland waterways, airfield sites, ports, major terrain obstacles, water supply, depot sites, accommodation, and enemy logistical installations.(16)

Other intelligence not provided by G-2 for this part of the Administrative Appreciation was provided to the G-4 Staff by other staff sections for use in the estimate/appreciation. As the format in Appendix B indicated, the Administrative Appreciation contained an abundance of logistical intelligence. Did it provide adequate intelligence according to the criteria established for use in this research? A brief review of each of

the five subject areas will analyze the operational level logistics intelligence of the operation.

The first area to evaluate is whether adequate intelligence was produced regarding friendly logistics forces available for operation. Was the G-4 provided enough information about when and where combat service support units would be available for employment? Basically, they were, since the G-4 Staff was responsible for such information. The organization branch of G-4 continuously monitored the build-up of service troops in England prior to the invasion.(17) The primary emphasis was on a fair allocation of logistics support to combat units. By continuous monitoring of operations planning and coordination with the G-3 staff, the G-4 was provided sufficient information to ensure each combat unit received adequate support.

Next, G-4 required intelligence regarding the logistics infrastructure of the theater of operations. Clearly, this is the area where the most, and best, intelligence possible was provided to the logistical planners. Provided primarily from British and American engineer analyses, detailed intelligence covering seven categories was produced. These categories were: ports, railways, roads, pipelines, inland waterways, utilities systems, and general requirements (such as hospital construction).(18) Utilizing a procedure called 'unit' estimates, each type of facility was analyzed to determine its capacity for military use. Ports were evaluated for cargo reception capacity, roads for the

weight they could carry, airfields for the length and number of runways, and aircraft parking capacity, and so on. Each was further evaluated in terms of any reduction in capacity as a result of possible battle damage, and logistics plans adjusted until engineer construction units could complete repairs.(19) Complementing that analysis, G-2 compiled estimates on enemy facilities of similar type and estimated their capacities in G-2 estimates.(20)

More than any other consideration, these requirements of establishing the infrastructure to support future operations drove logistics and intelligence planning for Operation Overlord. They were in fact the operational objective assigned to General Eisenhower by the Combined Chiefs of Staff.(21) The format of the Administrative Appreciation shows this emphasis (App. B) and this brief review shows that logistics intelligence needs regarding theater infrastructure were met.

The third criteria concerns host nation support. Paragraph 2.f. of the Supply and Evacuation Estimate (App. A) describes labor requirements and the quantity available. The administrative appreciation discussed host nation support primarily in the form of civilian labor resources, with specific emphasis on skilled workman such as railway labor. The operations division of the Army Service Forces (the World War II version of Army DCSLOG) prepared a detailed analysis of what French rail lines and equipment might be useable, and the military and French civilian

personnel necessary to operate the lines, in 1943.(22) Additionally, more general information about available host nation resources available came from G-2 and the Royal Engineers.

Fourth, the logistical planners required intelligence pertinent to establishing a sustainment base: concerns were primarily accessibility to sea and air lift, storage and transshipment capacities, and accessibility to inland lines of communication. According to the G-4 after action reports, these were the first aspects of logistics planning to be considered in 1943.(23) The detailed port, road and rail studies required to establish a sustainment base were provided in a form relevant to military operations. Port studies described capacity in terms of type and number of ships to be berthed (i.e. 7 LSTs per day) as well as number of troops to be discharged, tons of supplies to be discharged, and gallons of petroleum storage available, for example.(24) In the end, this information allowed the G-4 to plan a flexible sustainment system which developed a supply base on the coast of France capable of supporting multiple lines of operation during the drive into Germany.(25)

Finally, we must determine what intelligence was available which contributed to planning the five functional systems of the sustainment system: transportation, maintenance, supply, personnel, and health services. We see each area addressed in paragraph 2 of the supply and evacuation estimate (App. A) as well as the logistical factors paragraph of the administrative

appreciation (App. B). The intelligence relevant to each area was provided in the documents previously mentioned: G-2 analysis, engineer studies, War Department area studies, and technical intelligence service reports. The G-2, G-3, and G-4 would use this information in arriving at decisions concerning operations concepts. Such decisions were usually based on the G-4 estimate of the functional logistics systems and the capability they provided the commander: "Logistical support is sufficient for 12th Army Group to conduct operations west of the Seine River until the end of the month."(26)

Considering the time (over two years) available to gather intelligence and plan the logistics of Normandy, it seems easy to accept that the planning was as detailed as this analysis would seem to indicate. The logistics and intelligence planning for Operation Overlord, in fact, represent excellent efforts by the G-4 to ask for the necessary intelligence - the G-2 estimates did not proactively provide such information (See Appendix C - G-2 Estimate of the Situation - 1940). I now propose to examine how well the army applied the experience of that operation in the execution of an operation conducted with significantly less planning time. This was Operation Chromite - The Amphibious Landing at Inchon, Korea, in 1950.

Operation "Chromite" - The First Landing on Korea

> The Inchon landing was a major amphibious operation, planned in record time and executed with skill and precision. Even more, it was an exemplification of the fruits of a bold strategy executed by a competent force. The decision to attack Inchon involved weakening the line against enemy strength in the Pusan Perimeter in order to strike him in the rear. It involved the conduct of an amphibious attack under most difficult conditions of weather and geography.(27)

As this quote from the former Commandant of the Marine Corps indicates, the Inchon landing was a major joint operation, involving air, naval, and ground forces. The objective, in keeping with the context of this paper, had a significant link to operational sustainment. General of the Army Douglas MacArthur, Commander in Chief, Far East Command (CinCFE), had decided the best way to defeat the North Korean Army was to attack the enemy supply lines via a surprise amphibious landing in their rear.(28) The landing site at Inchon was specifically chosen because of logistics factors - nearby Seoul was the central hub of transportation and communications behind the North Korean lines, and topography in central Korea radiates from Seoul, facilitating movements both north-south and east-west.(29) Conducted simultaneously with a breakout from the Pusan perimeter by forces of the Eighth U.S. Army, Operation Chromite was intended to bring a rapid end to the war in a single stroke.(30)

However, unlike Operation Overlord, Chromite did not have the benefit of two years of planning time. The North Korean invasion

had caught the Far East Command unprepared, still involved in the occupation and rebuilding of Japan.(31) Organizing a Joint Strategic Plans and Operation Group (JSPOG) in the first week of July 1950, the Far East Command had approximately sixty days of planning time if plans were to be complete by D-Day, September 15th.(32) Such limited planning time makes Inchon an excellent example of operational planning, undoubtedly similar to future contingency operations yet to be faced. Then, as now, accurate and timely intelligence was key to successful logistical and operations planning. (33)

Doctrine had progressed little from World War II, however. The emphasis of intelligence planning continued to be the enemy situation, but the G-2 Estimate had been expanded and changed.(See Appendix D - G-2 Intelligence Estimate, 1950). Other related intelligence was supposed to be provided by national or strategic studies, and a detailed analysis of the area of operations would be included as part of paragraph one of the war plan.(34) As stated earlier, however, no plan existed, so the planning staff was assembled from soldiers of all services, with the planning of logistics falling on HQ, Eighth Army and the Japan Logistics Command (JLCOM), established in August 1950 at GHQ, Far East Command.(35) The planning for Operation Chromite was divided along functional lines, overseen by HQ Eighth Army, with the Navy planning the deployment and amphibious assault, and the Army planning support of ground combat operations.

Despite the limited amount of planning time available, intelligence preparation for Operation Chromite proceeded rapidly. The Joint Army-Navy Intelligence Service (JANIS) reports, strategic engineering studies, naval attache reports, and thousands of aerial photographs were studied to verify staff estimates, as well as reports from prisoners of war, and native Koreans.(36) The General Staff of Far East Command produced a "Basis for Planning Supply Requirements and Service Support for Military Operations in Korea" on August 27, 1950. It provided details of anticipated logistics requirements, planned troop strengths, and projected infrastructure and L.O.C. construction.(37) For planning the deployment and landing of military forces, the Department of Naval Intelligence published a report on "Port Logistics Summary, Korea" on June 28, 1950. In this report, capacities and characteristics of Korean ports were described in military operational terms: tides, water depth, berth capacity by type of ship, material handling capacity, storage capacity, and repair facilities.(38) Considering these facts, we can say the logistics intelligence available for Operation Chromite was generally adequate,according to the decision criteria established earlier.

The first of the criteria is the availability of information regarding friendly forces available. Perhaps no single aspect of the logistics situation was worse than the availability of support troops at the start of the war.(39) Headquarters, Far East

Command analyzed the number of combat forces that would be required and immediately reassigned an adequate number of support soldiers from duty in Japan, moving them forward to the units which would be supporting the Inchon landing.(40) Long term plans allowed for further build-up of support personnel in the vicinity of Inchon, establishing a base of support for the link-up with Eighth Army. The estimates of U.S. and Allied force build-up also included information on remaining supply and service soldiers available in Japan if operational requirements dictated the need for more support units. When necessary, the planning factors from FM 101-10 would be adjusted - lower percentages of service troops per combat unit allocated until the personnel situation improved.(41) Although the overall support personnel situation in the theater was a serious problem, the intelligence available for the planning of this operation is considered satisfactory - the G-4 Staff was provided adequate information about service support troops in preparing their plans.

Next, the intelligence regarding the logistics infrastructure is evaluated. The combination of naval intelligence reports, aerial photographs, Far East Command Staff reports, and War Department strategic intelligence studies provided an in-depth look at the Korean infrastructure in the Inchon - Seoul area. Additionally, the Far East Command planning study of August, 1950 detailed proposed construction to increase the capacity of the infrastructure.(42) This in turn would allow logistics planners

was necessary. Since General MacArthur had unilaterally chosen Inchon as the landing site, some of these considerations were overcome by events. Nonetheless, the naval intelligence and War Department strategic studies provided adequate intelligence about the facilities at Inchon and Seoul, as well as the surrounding area, providing details on ports, airfields, roads, etc., necessary to develop a concept for establishing subsequent support bases as the ground forces advanced from the beachhead.(45)

Finally, the sustainment planners required intelligence which would assist in planning the five functional systems of the sustainment effort: transportation, maintenance, supply, personnel, and health services. In addition to the voluminous intelligence sources and reports already mentioned, the sustainment planners for Operation Chromite received status reports from Far East Command GHQ, and from HQ, JLCOM explaining both the availability and anticipated consumption of resources in the combat environment in Korea. The operations and logistics planners were able to effectively plan and execute the sustainment of this operation despite such difficulties as limited planning time, and a shortage of support personnel. This ensured both the initial and subsequent execution of the logistics functions.

This brief historical analysis has shown that the operational logistician indeed had a significant requirement for intelligence that may be classified as neither tactical or strategic. Instead, that intelligence assisted the sustainment planner as he

prepared to provide the operational commander the means - military forces and support - to conduct operations. Indeed, it was absolutely essential that such intelligence address the five key subject considerations presented in this paper. Yet in both cases, the major task of the G-2 was analysis of the enemy situation. The G-4 obtained his logistics intelligence from the G-2, technical staff sections, national, strategic sources, or the other services. It appears that such a division of labor in the collection and dissemination of intelligence for logistics planning has a solid basis in historical precedent. The next section of this research will examine whether our current doctrine addresses operational logistics intelligence in a similar manner, and determine how well the intelligence needs of sustainment planners are likely to be met in future operations.

IV. CURRENT DOCTRINE/ANALYSIS

Doctrine for intelligence support of the operational level of war is in a constant state of development. The term 'logistics intelligence' is not used in current literature, but the developing conceptual framework for operational intelligence recognizes the unique nature and requirements of this level of war. The IPB process is placing an increased emphasis on those aspects of the theater or area of operations which may affect sustainment planning.(1)

The army operational logistician may conduct planning as a member of a joint, combined, or army component staff. Doctrine for combined staff procedures explains that logistics is normally a national responsibility.(2) Within the U.S. force structure, joint or unified commands depend on the component services to provide logistical support to their own forces.(3) Consequently, JCS (Joint Chiefs of Staff) and Army doctrine are the sources of guidance on operational level intelligence and logistics planning.

In planning logistical support of campaigns and major operations, the two historical examples have shown the existence of a significant intelligence requirement. JCS doctrine states that "higher echelons are responsible for providing subordinates any required intelligence exceeding the subordinate's organic capability to produce."(4) At the operational level, service components rely on "adjacent components (sister services) and

national-level agencies to provide intelligence..."(5) Most importantly, joint doctrine requires that the intelligence staff ascertain the intelligence requirements of subordinate units and staffs, and prepare an intelligence product which provides that information. This determination can only be made after the intelligence staff consults with the requesting unit or staff in order to clarify what information is necessary.(6)

Logistics intelligence for an army component force as part of a joint operation in 1990, then, basically has changed little since World War II or Korea. The J-2 or G-2 is ultimately responsible for producing intelligence, but the logistics planner is still responsible for ensuring that the intelligence staff understands what information is needed. Operational IPB remains the primary technique of meeting this requirement. To meet the needs of the operational level planner, it "requires access to information normally obtainable only from strategic collection means" - that is, national intelligence collection assets.(7) National agencies such as the Defense Intelligence Agency (DIA), National Security Agency (NSA), and Defense Mapping Agency (DMA) produce such intelligence for use during the operational IPB process.(8)

Utilizing the information obtained from such sources, the J-2 or G-2 is capable of producing an analysis of the theater or area of operations specifically designed to address operational-level concerns. Appendix D of Field Manual 34-130, Intelligence

Preparation of the Battlefield, contains a detailed discussion of IPB at the operational level. As explained earlier, the analysis of the characteristics of the theater of war is the primary source of logistics intelligence:

> Terrain and weather analysis are components of a broader analysis of the characteristics of the theater AO. The significant geographic characteristics of the theater AO, to include topography and hydrography, must be considered. Seasonal climatic conditions often dictate when to launch campaigns and limit the strategies employed.
>
> Other considerations would include disposition of transportation and telecommunications networks and facilities; economic, political, and social systems; the scientific and technological base; the extent of urbanization; and the state of national morale.(9)

The discussion of analysis of operationally significant features of the area of evaluation then asks:

> Are the existing rail, road, port, airfield, fuel pipelines, networks, and facilities suitable and available to support the likely courses of action; what are the water depths and beach contour in a region's coastal area; what are the rise and fall of the tides?(10)

The discussion also includes guidance on the importance of waterways such as rivers and canals, lines of communication, and weather, in order to "supply forces with the special clothing and equipment required to support commitment within the particular theater".(11) Again depending on Defense Mapping Agency -

produced terrain and weather data, the intelligence staff can produce as detailed an evaluation of the area as they are asked to. The key, however, is for the logistics planners to ask for the right information.

According to Field Manual 101-5, Staff Organization and Operations, that information is "obtained from the intelligence officer". It describes "the general characteristics of the area of operations emphasizing specific aspects which may affect the logistics effort".(12)

Emerging joint doctrine, however, uses the notion of a 'power grid' when developing a logistics concept for a campaign plan, requiring knowledge of the theater transportation and distribution system. The key components of the power grid are the air, water, and land lines of communication; the ports, bases, and airfields which serve as reception and transshipment points; and the service support units responsible for operating them.(13)

JCS Publication 4-0, Doctrine for Logistic Support of Joint Operations (Initial Draft) discusses the power grid in detail.(14) In addition to the key elements of the power grid discussed in the previous paragraph, there are seven considerations for developing a power grid: geography, efficiency of transportation, throughput capacity, throughput enhancements, infrastructure protection, echelonment of support, and assignment of responsibilities.(15)

Geography concerns primarily the transportation network - air, water, road, and rail. Efficiency of transportation

concerns an assessment of the capabilities of various modes to move personnel and cargo by rail, pipeline, sealift, and airlift in the most efficient manner. Throughput capacity reflects the ability of the area infrastructure to receive, store, and distribute personnel and resources. It requires an evaluation, for example, of transshipment and warehouse capacities.

Throughput enhancements are assets which facilitate distribution: local resources, labor, materiel handling equipment, airfield parking aprons, and high capacity ports. Logistics infrastructure security concerns are provisions made for the protection of the power grid, such as rear security forces, and L.O.C. security.

Echelonment of support describes concerns for meeting the logistics needs of forward combat forces. The logistics system must provide supply, maintenance, transportation, and services when and where needed. Finally, the responsibilities for providing support and operating the infrastructure must be clearly delineated. This requires the staff to analyze unit capabilities and assign responsibilities appropriately, or request assistance from another 'competent agent' (i.e. local labor or host nation forces).(16)

A logistics planner can readily develop the concept of support for a campaign or major operation if provided intelligence pertaining to these seven concerns and an area analysis which discusses the key elements of the power grid. Such information is

typical of that used in planning both Operations Overlord and Chromite. Further, such intelligence provides the background necessary when making key decisions based on the considerations of friendly force availability, establishment of the infrastructure, host nation support, establishing the sustainment base, and conducting the five logistics functional systems. Since these considerations are the criteria this study established for determining the validity of logistics intelligence, the concept of the power grid and considerations for its development appear to be an excellent framework for the logistical planner to use when requesting intelligence from the intelligence staff, technical staff, or other agencies. Such a framework also accounts for certain intelligence which is a product of the logistics staff - such as Time-Phased Force and Deployment Data (TPFDD) from the Joint Operations Planning System (JOPS).(17)

Currently, however, this framework is not final, approved doctrine. Most joint staff doctrine is being finalized and is pending approval. Until then, the army logistician must rely on the staff procedures from FM 101-5 to guide his request for logistics intelligence. The only guidance is the Logistics Estimate format (see Appendix E - Logistics Estimate - Current).

There is no accepted doctrine for the format of a campaign plan to guide logisticians in planning, or requesting intelligence. The only guidance on the nature of logistics intelligence are the five considerations for sustainment

planning extracted from FM 100-5 to use as evaluation criteria in this study: forces available, theater infrastructure, host nation support, establishment of the sustainment base, and the major sustainment systems.

Intelligence support of sustainment planning primarily comes from two paragraphs of the intelligence estimate (See Appendix F - Format for Intelligence Estimate - Current) and the terrain and weather analyses produced during the IPB process. While IPB doctrine recognizes the specific intelligence requirements of operational-level sustainment planning, the current intelligence estimate focus is primarily on the enemy. The intelligence and operations staffs work closely together. The intelligence officer understands the requirements of operations planners intimately; he understands the needs of the logistician less.(18)

If the operational logistician's intelligence needs are going to be met, he must ask for the right information. The information is available, from IPB, national sources, other services, and the JOPS data base. The intelligence staff is responsible for its dissemination to other staff organizations.(19) What the operational logistician does not have is a framework for requesting intelligence, similar to the 'power grid' concept from pending JCS doctrine.

While it is not the purpose of this study to advocate 'fill-in-the-blank' or 'cookie-cutter' models, the author does see utility in a framework designed to guide the logistics planner in

requesting additional intelligence beyond that found in the Intelligence Estimate (App. F). Such a framework can be invaluable in developing the logistical concept during campaign planning, and such intelligence was absolutely critical to the planning of Operations Overlord and Chromite. Current doctrine considers such intelligence critical when planning operations sustainment.(20) The 'Administrative Appreciation' (App. B) from World War II provided such a framework - along with the detailed intelligence to plan operational logistics. In Korea, the General Staff of Far East Command provided operational logistics intelligence through a combination of its own "Basis for Planning..." and a coordinated joint intelligence effort. Current IPB doctrine and developing joint staff doctrine guarantee that the modern operational logistician will receive the necessary intelligence - if and when it is asked for.

V. CONCLUSIONS/RECOMMENDATIONS

Army IPB doctrine has revitalized interest in the value of logistics intelligence at the operational level of war. Developing joint staff doctrine is proposing an excellent framework for planning operational level sustainment - the power grid. Just as the logistics planners of Operations Overlord and Cnromite had a need for specific logistics intelligence, so does the operational level logistician of today.

The intelligence staff procedures - such as IPB - and systems available today certainly equal or surpass those of World War II or Korea. The capability to produce operational level logistics intelligence also exists. At present, the sustainment planner must "take a shot in the dark" when deciding what to ask the intelligence officer. If the proposed joint doctrine containing the concept of the power grid is approved, logistics intelligence will have a solid doctrinal foundation.

The intelligence requirements for sustainment planning can be met by merging the concepts of key elements of the power grid with the considerations in developing a power grid into a model for operational logistics intelligence. If tempered by the five key considerations for planning operational sustainment such a model can provide excellent guidance for the sustainment planner trying to determine the logistics intelligence requirements. It is the final conclusion of this study that such a model is necessary. The form is perhaps less important when compared to

the concept (but one possible format is at Appendix G). The intent is for the intelligence and logistics planners to recognize the unique nature of logistics intelligence, and begin to establish the appropriate staff relationship and planning procedures to produce and refine it.

In order to facilitate the recognition of the concept of logistics intelligence at the operational level of war the following recommendations are made:

(1) Define the term "logistics intelligence" and include it in doctrinal publications.

(2) Continue to develop joint staff doctrine, specifically intelligence and logistics doctrine as discussed in JCS Pub 2-0 and 4-0; approve them both.

(3) Incorporate the "Power Grid" concept into army sustainment doctrine; and professional development schools, such as Command and General Staff College.

(4) Develop a staff planning model for operational logistics intelligence which uses the power grid framework in conjection with army operational sustainment considerations.

(5) Reemphasize the need for close interaction between all staff officers, but stress the need for the intelligence and sustainment planners to work closely during campaign planning. Begin this process by incorporating this idea in the next edition of FM 101-5.

Logistics intelligence is the basis for effective operational level logistics planning. It's time to recognize this unique

bridge between intelligence and logistics.

> Continued neglect of the logistical art is potentially more dangerous than our earlier neglect of the operational art.(1)

APPENDIX A: ESTIMATE OF THE SUPPLY AND EVACUATION SITUATION -1940
(FM 101-5)

1. TACTICAL CONSIDERATIONS.
   a. *Own forces* (information from G-3).
      (1) Present dispositions of major elements of the command (map).
      (2) The tactical line of action under consideration.
      (3) Probable tactical developments under (2) above.
         (a) Period estimated to carry out (2) above.
         (b) Expected locations of major elements of the command at intervals during the period.
         (c) Probable nature of the combat at intervals during the period.
   b. *Enemy* (information from G-2).
      (1) Present dispositions of major elements of enemy's forces (map).
      (2) Major capabilities--Action by the force as a whole.
      (3) Minor capabilities-- Sabotage, air or ground raids, etc., likely to affect supply and evacuation.

2. LOGISTICAL AND OTHER FACTORS (information primarily from special staff).
   a. *Present location of supply and evacuation installations* (map).
   b. *Supplies and animal replacements.*--Estimated expenditures or losses during period; quantities on hand, en route, available from local resources; credits.
   c. *Evacuation.*--Estimate of casualties in men and animals; support by higher echelons; organic medical means; diseases likely to affect operations; surplus supplies; captured materiel; prisoners of war.
   d. *Lines of communication.*
      (1) Railways--location, capacity, condition, critical points, availability, siding and terminal facilities.
      (2) Roads--all-weather net, secondary net; capacity, condition, critical points, availability.
      (3) Waterways-- location, critical points, dockage facilities.
      (4) Airways--terminals; location and capacity.
   e. *Transport.*--Requirements for each type, quantities of all types available, locations, cargo capacity, rates of speed.
   f. *Labor.*--Requirements, quantity available.
   g. *Terrain.*--As affecting location of establishments, security of lines of communication, operation of transport.
   h. *Weather.*--As affecting supply and evacuation activities.

3. ESSENTIAL ELEMENTS OF SUPPLY AND EVACUATION PLAN.--List the several elements that should be considered, and where alternatives appear feasible discuss their relative advantages and disadvantages. (Usually the essential elements can be conveniently expressed under the following heading: lines of communication, installations, trains, supplies, transportation, traffic, evacuation, labor, protection.)

4. CONCLUSIONS
   a. *State the essential elements of the supply and evacuation plan recommended.*
   b. *Indicate whether or not the plan recommended will adequately support the tactical line of action under consideration.*
   c. *State the unavoidable deficiencies in the plan, if any.*
   d. *State the effect of possible major adverse conditions on the plan and either the alternative measures necessary to overcome them or the unavoidable deficiencies that will arise.*

AC of S, G-4

APPENDIX B: SHAEF ADMINISTRATIVE APPRECIATION - 1943

INTRODUCTION
(summary of recent events or revised strategic concept which requires a new logistical estimate and plan)

OBJECT
(purpose, usually "To formulate plans and policies for the logistical support of operations during the period----------")

STRATEGY
(brief of planning forecast, illustrated on map showing phaselines and anticipated dates of capture of major ports)

INTELLIGENCE
(enemy capabilities to react which will affect such logistical factors as rate of advance, degree of "scorched earth," interference with our lines of communication, etc)
(topography and communications)
(climate and weather)

LOGISTICAL FACTORS

Ports and port capacities

Shipping

Build-up of troops

Estimated requirements
- Ground forces
- Air forces
- Transportation equipment and supplies
- Engineer equipment and supplies
- Coal
- Organizational equipment (incl boxed vehicles)
- Civil relief
- Miscellaneous (incl Navy, Red Cross, RAMP, PW, USO, Press, etc)
- Total gross requirements

Bulk POL

Local resources
(Construction materials, coal, foodstuff, etc)

Inland transportation capacities
- Road
- Rail
- Inland waterways
- Pipeline
- Air

Total net requirements for import
(Total gross requirements less local resources, with bulk POL shown separately)

Estimated forward movement
- Maintenance of combat zone
- Reserves to be built in forward areas
- Miscellaneous traffic (incl tactical moves, replacements, administrative vehicles, ambulances, etc)

Estimated rearward movement
- Salvage
- Assemblies for repair
- RAMP, PW, and DP
- Casualties
- Captured war materiel
- Coal (from mines in forward areas)
- Redeployment
- Leave parties

COMPARISON OF REQUIREMENTS AND CAPACITIES

Net import requirements and import capacities
- Ports
- Bulk POL
- Air
- MULBERRY*
- Beaches

Rearward movement
- Effects on inland transportation
- Effects on import capacities

Forward movements with inland transportation
- Rail) primary
- Pipeline) primary
- Road) primary
- Inland waterways--secondary
- Air--emergency

CONCLUSIONS

Cessation of beach maintenance

Port development

Levels of reserves

Use of inland waterways

Air supply

Exploitation of local resources

Preshipment of organizational equipment

Transportation needs
- Locomotives and rolling stock
- Bulk POL facilities
- TC truck companies
- Operating personnel
- Signal communications
- Cancellation of airborne operations
- Barges and tugs

Service troops and labor

LOGISTICAL POLICIES

General

Port development

Rail development

Coal production

Civil relief scales

Use of service troops, local labor, PW, and tactical troops for logistical purposes

Reserves in forward areas

Exploitation of local resources

Airfield construction

Responsibility for ports and lines of communication

LOGISTICAL PLAN

Allocation of ports

Development of advanced bases and forward, depot areas

Development of lines of communication

Administrative boundary

Emergency supply measures

* Author's Note - MULBERRY were two artificial harbors designed and built for use at Normandy.

ANNEXES AND MAPS

ANNEX 'A'--SUMMARY OF MANEUVER (prepared by G-3)
'B'--TOPOGRAPHY AND COMMUNICATION (prepared by G-2)

General	Major obstacles of terrain
Roads	Water supply
Railroads	Depot sites
Inland waterways	Accommodation
Airfield sites	Enemy logistical installations

*'C'--ESTIMATED PORT CAPACITIES
*'D'--MAINTENANCE AND RESERVES FOR GROUND FORCES
*'E'--MAINTENANCE AND RESERVES FOR AIR FORCES
*'F'--TRANSPORTATION TONNAGES (incl Railway Construction, Port and Railway Operating and Workshop, and Port Construction and Repair)
*'G'--ENGINEER TONNAGES (incl Road Construction and Maintenance, Bridge Materials, Water Supply, Airfield Construction, Building Materials, Bulk POL Construction, industrial gases, etc)
*'H'--COAL REQUIREMENTS (incl Train heating and warming, Hospitals, Railways, Workshops, and Minimum Civil Relief)
*'I'--ORGANIZATIONAL EQUIPMENT (preshipped and accompanying)
*'J'--CIVIL RELIEF (other than coal)
*'K'--MISCELLANEOUS SMALL REQUIREMENTS (incl Navy, Red Cross, RAMP, PW, DP, USO, Press, etc)
*'L'--BULK POL
*'M'--LOCAL RESOURCES (incl coal, Construction Materials, local farm produce, and local manufacture for military use)
*'N'--CONSOLIDATED TONNAGE TABLE (developing both gross and net requirements for import)
*'O'--RESERVES TO BE ACCUMULATED IN FORWARD AREAS PRIOR TO MAJOR OFFENSIVES
*'P'--MILEAGE CHART (mileage between principal location in Zone of Advance)

MAPS 'Q'--PHASE LINES AND ADMINISTRATIVE BOUNDARY
'R'--MAIN TRUCK ROUTES
'S'--PRIMARY RAILROADS
'T'--PIPELINES
'U'--NAVIGABLE INLAND WATERWAYS
'V'--ADMINISTRATIVE AIRFIELDS
'W'--DEPOT AREAS
'X'--KNOWN ENEMY LOGISTICAL INSTALLATIONS

*Annexes C to P are presented as tables

APPENDIX C: G-2 ESTIMATE OF THE ENEMY SITUATION - 1940 (FM 101-5)

1. SUMMARY OF THE ENEMY SITUATION.
   a. Enemy activities in forward areas and new identifications.
   b. Movements, concentrations, and establishments in rear areas.
   c. Terrain and weather as they affect the enemy.

2. CONCLUSIONS.
   a. *enemy capabilities.*--An enumeration of lines of action open to the enemy which may affect accomplishment of the mission of the command.
   b. (1) A statement of the relative probability of adoption of the foregoing lines of action when such statement can be justified.
      (2) Reasons justifying any statement made in (1) above.

Chief of section

APPENDIX D: G-2 INTELLIGENCE ESTIMATE - 1950 (FM 101-5)

CHARTS OR MAPS

1. MISSION.

State the task and its purpose.
a. If mission is multiple, determine priorities.
b. If there are intermediate tasks, such tasks should be listed.

2. THE SITUATION AND COURSES OF ACTION.

a. Considerations affecting the possible enemy courses of action and our mission. Determine and analyze those factors which will influence choice by the enemy of a course of action as well as those which affect the capabilities of the enemy to act. Consider such of the following and other factors as are involved.
(1) Characteristics of the area of operations.
(a) Weather (or climatic conditions) (annex, if applicable).
1. Statement of existing situation.
2. Tactical effects on enemy capabilities to act.
3. Tactical effects on mission of own command.
(b) Terrain (annex, if applicable).
(c) Hydrography (annex, if applicable).
(d) Politics (annex, if applicable).
(e) Economics (annex, if applicable).
(f) Sociology (annex, if applicable).

NOTE. Subheadings for any of the above, or any additional factors which are discussed, should be similar to those indicated under weather above.

(2) Enemy situation.
(a) Strength, including combat efficiency.
(b) Composition.
(c) Dispositions, including fire support.
(d) Recent and present significant activities (including enemy's knowledge of our situation).
(e) Status of supply.
(f) Reinforcements.

b. Enemy capabilities.

(1) Note all possible courses of action within the capabilities of the enemy which can affect the accomplishment of the mission.

(2) Discussion and analysis of subparagraph 2b(1) to justify (when possible) the selection of relative probability of adoption of enemy capabilities.

(3) Relative probability of adoption of enemy capabilities.

3. EFFECT OF ENEMY COURSES OF ACTION ON OUR MISSION.

/s/_____
G-2

APPENDIX E - FORMAT FOR THE LOGISTIC ESTIMATE - CURRENT (FM 101-5)

LOGISTIC ESTIMATE NO_____

1. MISSION

2. THE SITUATION AND CONSIDERATIONS

a. Intelligence Situation. *Information obtained from the intelligence officer is used. When the details are appropriate and the estimate is written, a brief summary and reference to the appropriate intelligence document, or an annex of the estimate, may be used.*

(1) Characteristics of the area of operations. *Describe the general characteristics of the area of operation emphasizing specific aspects which may affect the logistics effort.*
(2) Enemy strength and dispositions.
(3) Enemy capabilities.
(a) Affecting the mission.
(b) Affecting logistic activities.

b. Tactical Situation.

(1) Present dispositions of major tactical elements.
(2) Possible courses of action.
(3) Projected operations.

c. Personnel Situation.

d. CMO Situation.

e. Logistic Situation.

(1) Maintenance.
(2) Supply.
(3) Services.
(4) Transportation.
(5) Labor.
(6) Facilities and construction.
(7) Other.

f. Assumptions.

3. ANALYSIS OF COURSES OF ACTION

a. Sufficiency of Area. *Determine if the area under control will be adequate for the combat service support operations. Will it be cleared of enemy units; will other units be sharing the same area (units passing through one another); will boundaries remain unchanged, etc?*

b. Materiel and Services.

4. COMPARISON OF COURSES OF ACTION.

5. CONCLUSIONS

*/s/*_____
(Designation of staff officer)

APPENDIX F - FORMAT FOR INTELLIGENCE ESTIMATE - CURRENT (FM 101-5)

INTELLIGENCE ESTIMATE NO _____

References: maps, charts, or other documents

1. MISSION

2. THE AREA OF OPERATIONS

This paragraph discusses the influence of the area of operations used in arriving at conclusions. It is based on the facts and conclusions of the analysis of the area of operations, if one has been prepared. It may be a reference to an analysis of the area of operations, if adequate coverage and discussion are contained therein.

a. Weather.

(1) Existing situation.
(2) Effect on enemy courses of action.
(3) Effect on own courses of action.

b. Terrain.

(1) Existing situation.
(2) Effect on enemy courses of action.
(3) Effect on own courses of action.

c. Other Characteristics. *The following additional characteristics considered pertinent are included in separate subparagraphs: sociology, politics, economics, psychology, and other factors. Other factors may include such items as science and technology, materiel, transportation, manpower, and hydrography. These factors are analyzed under the same headings as weather and terrain.*

3. ENEMY SITUATION

a. Disposition.

b. Composition.

c. Strength.

(1) Committed forces.
(2) Reinforcements.
(3) Artillery.
(4) Air.
(5) Nuclear weapons and chemical and biological agents.
(6) Other enemy forces.

d. Recent and Present Significant Activities.

e. Peculiarities and Weaknesses.

(1) Personnel.
(2) Intelligence.
(3) Operations.
(4) Logistics.
(5) CMO Operations.
(6) Personalities.

4. ENEMY CAPABILITIES

a. Enumeration.

b. Analysis and Discussion.

5. CONCLUSIONS

a. Effects of Intelligence Considerations on Operations.

b. Effects of the Area of Operations on Own Courses of Action.

c. Probable Enemy Courses of Action.

d. Enemy Vulnerabilities.

/s/_____
(Designation of staff officer)

APPENDIX G: LOGISTICS STAFF GUIDELINES FOR REQUESTING INTELLIGENCE (A SUGGESTED FORMAT)

1. LOGISTICS POLICIES WITHIN THE THEATER.
   -use of local resources and labor
   -host nation support agreements (to be) in effect
   -use of PW, combat units for logistics purposes
   -prestockage of resources, if any
   -civil relief policy
   -rear security agreements or policies

2. FORCES AVAILABLE TO CONDUCT LOGISTICS OPERATIONS.
   -logistics troops available or projected to be available
   -unit capabilities
   -additional equipment available
   -rear security forces

3. FACTORS AFFECTING ESTABLISHMENT OF THE SUSTAINMENT BASE.

   a. Lines of Communications Into and Within the Area
      -air, sea, land

   b. Ports, Bases, and Airfields Available
      -capacity, condition

   c. Forces to Operate Facilities
      -local labor, military forces, host nation support

4. GEOGRAPHIC AND WEATHER FACTORS AFFECTING LOGISTICS.

   a. Military Geography of the Area; IPB per FM 34-130
      -terrain and weather

   b. Transportation Network
      -road, rail, water, air, pipeline
      -describe locations, capabilities, equipment, condition

   c. Logistical Infrastructure
      -all facilities in the theater with potential use warehouses, POL storage, transportation terminals, maintenance and repair facilities, hospitals, water and utility systems, accommodations
      -describe location, capacity, condition, labor requirements

   d. Local Resources Available
      -supplies, food, water, fuel, construction materials, labor, known enemy resources, other host nation support

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